



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,460	03/05/2004	Chih-Ching Chen	ACMP0193USA4	2459
27765	7590	12/27/2005	EXAMINER	
NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION			VO, ANH T N	
P.O. BOX 506			ART UNIT	
MERRIFIELD, VA 22116			PAPER NUMBER	
			2861	

DATE MAILED: 12/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No.	Applicant(s)	
	10/708,460	CHEN, CHIH-CHING	
	Examiner	Art Unit	
	Anh T.N. Vo	2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-6 and 9-38 is/are rejected.
- 7) ☒ Claim(s) 3,7 and 8 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Information Disclosure Statement

The references cited on PTO 1449 have been considered.

Double patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-2, 4-6, 8-10 and 12-13 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-33 of Chen et al. (U.S. Pat. 6,860,592) in view of Childers et al. (US Pat. 5,442,386).

Chen et al discloses in claims 1-33 an ink cartridge comprising:

- a flexible substrate (column 7, line 53);

- a plurality of conductive traces formed on the flexible substrate (column 7, lines 54-55);
- a casing having an ink reservoir for containing N types of ink, each type of ink having a different color, wherein N is an integer (column 7, lines 49-50);
- a TAB (equal to PCB) assembled to the casing (column 7, lines 51-52);
- N types of identifiable areas, wherein the identifiable areas are associated with the colors of ink in the ink reservoir (column 7, lines 59-62);
- wherein N equals 1 (column 7, lines 66-67);
- wherein N equals 3 (column 8, lines 1-2); and
- a method of identifying the colors of ink contained in an inkjet cartridge by an identifiable TAB, comprising the steps of: providing at least one inkjet cartridge, the inkjet cartridge comprising: a casing having an ink reservoir for containing N types of ink with different colors, wherein N is an integer; and an identifiable TAB disposed to the casing, the TAB comprising: a flexible substrate; a plurality of conductive traces formed on the flexible substrate; and identifying at least N types of ink in the ink reservoir, wherein N types of ink have different colors, and the identifiable areas are associated with the colors of ink (column 8, lines 46).
- wherein the colors of ink are selected from the group consisting of black, cyan, magenta, yellow, light black, light cyan, light magenta, light yellow, orange, green, light orange, and light green (column 8, lines 20-25).

However, the claims 1-33 of Chen et al. (US Pat. 6,860,592) do not disclose a plurality of contacts that is formed on the flexible substrate and connected to the conductive traces; wherein the contacts are arranged into at least one identifiable area.

Childers et al. disclose in Figures 1a-1b and 2-3 a print cartridge comprising:

- a flexible substrate (22 or 58);
- a plurality of conductive traces (24 or 72) formed on the flexible substrate (22 or 58); and
- a plurality of contacts (23 or 60) formed on the flexible substrate (22 or 58) and connected to the conductive traces (24 or 72) and wherein the contacts are arranged into at least one identifiable area; and

- the identifiable area (an area that has marked dots of elements 23) comprises an identifiable mark (Fig. 1b).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the teaching of Childers et al. in the Chen et al. ink jet printhead cartridge for the purpose of externally generating electrical energization signals to an ink jet printhead cartridge.

Claims 1-2 and 14-38 are rejected under the judicially created doctrine of obviousness type double patenting as being unpatentable over claims 1-38 of Chen et al. (U.S. Pat. 6,805,430) in view of Childers et al. (US Pat. 5,442,386).

Chen et al discloses in claims 1-38 an ink jet apparatus and method of preventing misplacing inkjet cartridge therein comprising:

- an identifiable TAB (a first flexible PCB and a second flexible PCB) disposed on an inkjet cartridge (a first inkjet cartridge and a second inkjet cartridge (column 5, lines 59-61)
- a carriage equipped with a flexible circuit board (FCB) (equal to a printed circuit board PCB) (column 5, lines 57-58);
- a first flexible TAB (equal to a first flexible PCB) and a second flexible TAB (equal to a second flexible PCB) respectively disposed in a first inkjet cartridge and a second inkjet cartridge electrically coupling to the FCB on the carriage (column 5, lines 57-61), the first inkjet cartridge and the second inkjet cartridge respectively having a first plurality of contacts and a second plurality of contacts, wherein the first contacts and the second contacts are arranged into a first identifiable area and a second identifiable area, wherein the first identifiable area and the second identifiable area are associated with the colors of ink stored in the first inkjet cartridge and the second inkjet cartridge (column 5, lines 61-67);
- a first sensor, disposed in the carriage for detecting the first identifiable area and sending a first signal (column 6, lines 1-3);

Art Unit: 2861

- a second sensor, disposed in the carriage for detecting the second identifiable area and sending a second signal (column 6, lines 4-6);
- a control unit for receiving the first signal and the second signal, and determining whether the first inkjet cartridge and the second inkjet cartridge are correctly placed (column 6, lines 7-10);
- wherein the control unit sends a warning signal to alert a user when the first inkjet cartridge or the second inkjet cartridge is misplaced (column 6, lines 11-14);
- wherein the carriage is equipped with a first FCB and a second FCB, wherein the first FCB and the second FCB are electrically coupled to the first flexible TAB of the first inkjet cartridge and the second flexible TAB of the second inkjet cartridge, respectively (column 6, lines 15-21);
- wherein the first sensor and the second sensor are positioned at the first TAB (equal to a first flexible PCB) and the second TAB (equal to a second flexible PCB) respectively (column 6, lines 22-24);
- the inkjet apparatus further comprising a housing, wherein the first sensor and the second sensor are disposed in an inside wall of the housing (column 6, lines 25-27);
- wherein the first identifiable area and the second identifiable area are formed at the first flexible TAB of the first inkjet cartridge and the second flexible TAB of the second inkjet cartridge, respectively (column 6, lines 28-31);
- wherein the first inkjet cartridge has a first surface and the second inkjet cartridge has a second surface, and the first identifiable area and the second identifiable area are located at the first surface and the second surface, respectively (column 6, lines 32-36);
- wherein the first signal and the second signal are wirelessly transmitted between the control unit, the first sensor and the second sensor (column 6, lines 37-40);
- wherein the first identifiable area and the second identifiable area are texts which represent the colors of ink respectively (column 6, lines 41-44);
- a method of preventing misplacing inkjet cartridge comprising the steps of:
 - * detecting the first identifiable area and the second identifiable area (column 6, lines 55-56);
 - * sending a first signal and a second signal (column 6, line 58);
 - * receiving the first signal and the second signal (column 6, line 59);
 - * determining whether the first inkjet cartridge and the second inkjet cartridge are

correctly placed (column 6, lines 60-61).

- * sending a warning signal to alert a user while the first inkjet cartridge or the second inkjet cartridge is misplaced (column 6, lines 65-67);
- wherein the sensor is a charged coupling device (CCD) (column 7, lines 20-21).
- wherein the sensor is a contact image sensor (CIS) (column 7, lines 22-23).
- wherein the sensor is disposed in the carriage (column 7, lines 16); and
- wherein the sensor is disposed in an inside wall of the housing (column 7, lines 25-26).

However, the claims 1-38 of Chen et al. do not disclose a flexible substrate; a plurality of conductive traces formed on the flexible substrate; and a plurality of contacts formed on the flexible substrate and connected to the conductive traces.

Childers et al. disclose in Figures 1a-1b and 2-3 a print cartridge comprising:

- a flexible substrate (22 or 58);
- a plurality of conductive traces (24 or 72) formed on the flexible substrate (22 or 58); and
- a plurality of contacts (23 or 60) formed on the flexible substrate (22 or 58) and connected to the conductive traces (24 or 72); and
- the identifiable area (an area that has marked dots of elements 23) comprises an identifiable mark (Fig. 1b).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the teaching of Childers et al. in the Chen et al. ink jet apparatus for the purpose of providing conductors and contact pads to externally generate electrical energization signals to an ink jet printhead cartridge of an ink jet printer.

Claim Rejections

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2 are rejected under 35 USC 102 (b) as being anticipated by Childers et al (US Pat. 5,442,386).

Childers et al. disclose in Figures 1a-1b and 2-3 a print cartridge (10) comprising:

- a flexible substrate (22 or 58);
- a plurality of conductive traces (24 or 72) formed on the flexible substrate (22 or 58); and
- a plurality of contacts (23 or 60) formed on the flexible substrate (22 or 58) and connected to the conductive traces (24 or 72); wherein the contacts are arranged into at least one identifiable area (Figures 1a-1b); and
- the identifiable area (an area that has marked dots of elements 23) comprises an identifiable mark (Fig. 1b).

Citation of Pertinent Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art reference (US Pat. 5,984,464; US Pat. 4,907,018) cited in the PTO 892 form show an ink cartridge for an ink jet printer which is deemed to be relevant to the present invention. These references should be reviewed

Allowable Subject Matter


Claim 3 would be allowable if provided a terminal disclaimer and rewritten to include all of the limitations of the base claim and any intervening claims. This claim would be allowable because none of the prior art references of record teach an identifiable TAB being disposed on an ink cartridge comprising an identifiable mark that is a trademark or a brand name in the combination as claimed.

Claims 7-8 would be allowable if provided a terminal disclaimer and rewritten to include all of the limitations of the base claim and any intervening claims. These claims would be allowable because none of the prior art references of record teach an ink cartridge comprising identifiable areas are texts which represent the colors of ink respectively in the combination as claimed.

CONCLUSION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Anh Vo whose telephone number is (571) 272-2262. The examiner can normally be reached on Tuesday to Friday from 9:00 A.M. to 7:00 P.M..

The fax number of this Group 2861 is (571) 273-8300.



ANH T.N. VO
PRIMARY EXAMINER
December 23, 2005